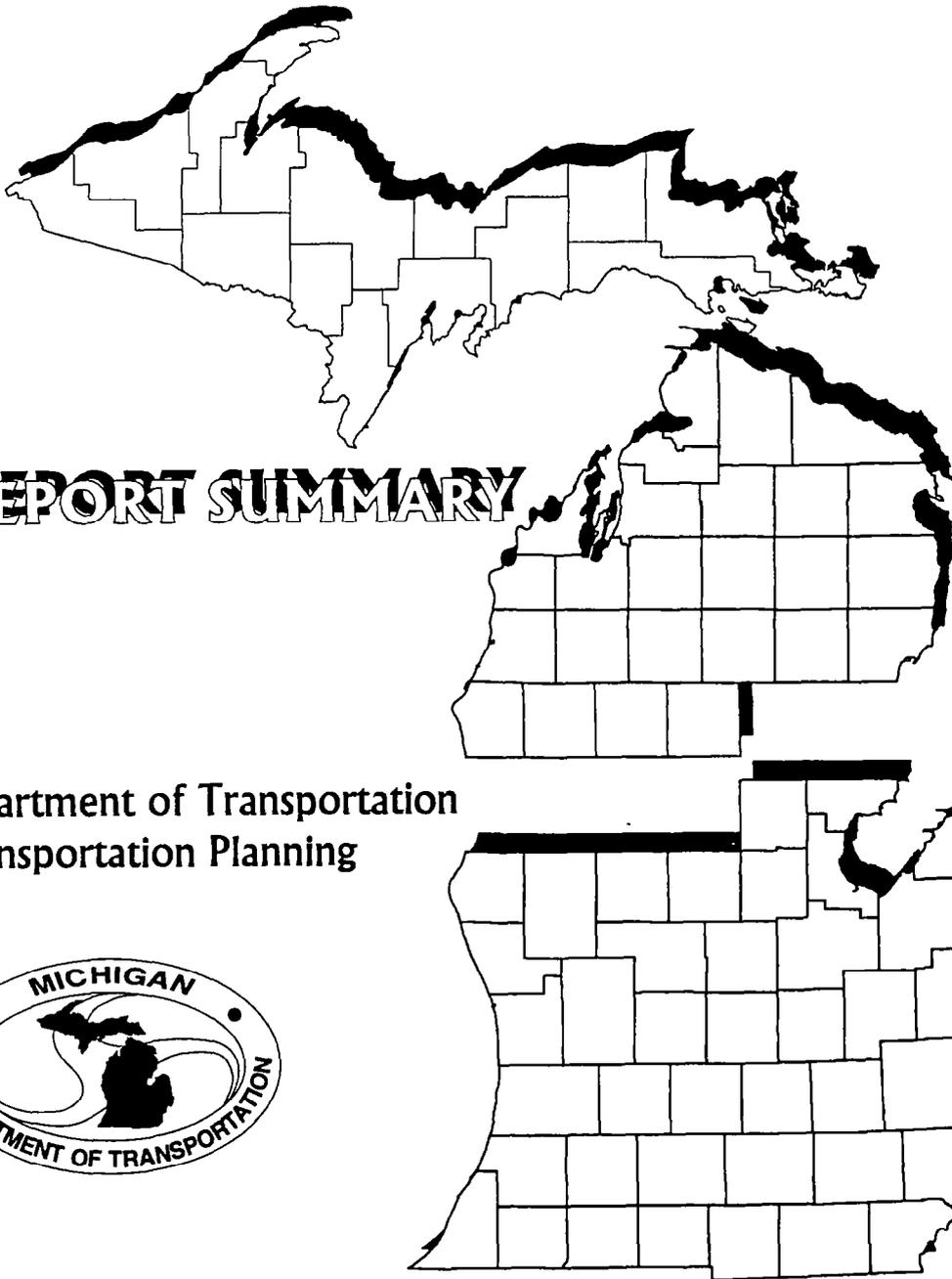


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# MICHIGAN

## Sub-State Area Long Range Plans



### FINAL REPORT SUMMARY

Prepared for:  
Michigan Department of Transportation  
Bureau of Transportation Planning



Prepared by: The Corradino Group, September 1995

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# MICHIGAN SUB-STATE AREA LONG RANGE PLANS

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*FINAL REPORT*

*Sub-State Area Long Range Plans  
Final Report*

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## SUMMARY

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Extensive change will mark the future of transportation in Michigan. To meet this challenge, the Michigan Department of Transportation (M•DOT) embarked upon the creation of a statewide plan to chart improvements to the transportation system and to determine funding priorities for the next twenty years.

This long range planning process unfolded in three phases. The first highlighted statewide issues and led to the development of goals and objectives for the overall plan. The second phase developed plans to address the unique requirements of three sub-state area plans – the Upper Peninsula, the Northern Lower Peninsula and the Southern Lower Peninsula. The final phase will combine statewide goals and objectives, the sub-state plans, the Metropolitan Area Plans and investment strategies to create the final State Long Range Plan.

In pursuing this course, the sub-state planning process addresses transportation issues between Metropolitan Planning Areas and in areas outside them. The Southern Sub-State Plan and the Metropolitan Area Plans have been checked to ensure consistency between proposed projects and programs. The transportation plans for the metropolitan areas are incorporated into the process virtually untouched.

As required by the Federal Intermodal Surface Transportation Efficiency Act (ISTEA), M•DOT began developing the state long range transportation plan in 1993 with the intent to deliver a final plan to the Federal Highway Administration by January 1995.

The Department selected The Corradino Group as consultant for development of the sub-state plans. All citizens were encouraged to get involved in this effort. M•DOT and The Corradino Group conducted nearly 100 public meetings and technical briefings from one end of the state to the other asking Michigan residents for input and addressing mobility issues. The result is a plan for each sub-state area for the next twenty years with an emphasis on systemwide transportation improvements, including intermodal connections.

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EACH MICHIGAN  
SUB-STATE  
TRANSPORTATION  
PLAN HAS BEEN  
BUILT THROUGH  
EXTENSIVE PUBLIC  
INVOLVEMENT.

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This, the second phase of the project, developed the long range multimodal transportation plan for each sub-state area of Michigan by addressing the following issues:

- ◆ Sub-State Profile - An overview of each sub-state area, including its physical characteristics, population and economic trends.
- ◆ Transportation System - A summary description of the six basic modes – highway, aviation, bus, rail, marine ports and bikeways/trails – that serve each sub-state area.
- ◆ Key Forecast Data - A view of key trends in population growth, economic indicators and travel patterns.
- ◆ Alternative Highway Plans - The presentation of alternative improvements for highways to serve the state of Michigan for the next 20 years and beyond.
- ◆ Other Modal Proposals - The presentation of concepts for possible improvements in aviation, rail, marine ports, bus, and bikeways/trails.
- ◆ Underlying Considerations/Goals and Objectives - A discussion of important issues by mode and a presentation of the seven goals of the Michigan Long Range Transportation Plan.

All of these items have been reviewed with the public in a series of meetings as follows:

January 1994 - Introduce Project

- 10: Grand Rapids
- 11: Houghton/Hancock, Kalamazoo, Traverse City, Cadillac, Marquette, Saginaw
- 12: Sault Ste. Marie, Jackson, Alpena

March 1994 - Examine sub-state profiles, and review preliminary definition of transportation needs.

- 28: Niles
- 29: St. Ignace, Manistee, Mt. Pleasant
- 30: Iron Mountain, Gaylord, Adrian
- 31: Ironwood, Tawas City, Bad Axe

- May 1994 - Examine the forecast for the population, employment and economic conditions for each sub-state area and the preliminary transportation alternatives.
  - 23: Newberry, Petoskey, Lansing
  - 24: Escanaba, Oscoda, Muskegon
  - 25: Baraga, Houghton Lake, Flint
  
- August 1994 - Examine the preliminary transportation plan prepared by the consultant.
  - 8: Houghton/Hancock, Traverse City, Grand Rapids
  - 9: Marquette, Cadillac, Battle Creek
  - 10: Sault Ste. Marie, Alpena, Saginaw
  
- September 1994 - Review the revised transportation plan.
  - 26: Bruce Crossing, Cadillac, Bay City
  - 27: Escanaba, Gaylord, Adrian
  - 28: Sault Ste. Marie, East Tawas, Kalamazoo

Almost two thousand people attended these meetings. Additionally, about four hundred people received detailed printed material in advance of each public meeting. In the process, hundreds of inquiries by phone were addressed through a toll-free telephone line. And, a mailing list was assembled with names of almost 4,000 people interested in the project, all of whom received meeting announcements.

## LAND USE

As a result of this public involvement, and the analysis summarized here and presented more fully in the six interim reports produced through the project, the long range transportation plan for each of the three Michigan sub-state areas has been developed. A summary by mode is presented here.

It should be noted that the basic building block of the State Long Range Transportation Plan is maintaining and preserving all existing components of the transportation system. Additionally, to protect all infrastructure investment, the linkage between land use and transportation is a key consideration.

The transportation system is the skeleton for the land use pattern of a community. Accordingly, preservation of the transportation system is important to both the quality of life and the enhancement of economic vitality of a community. Coordinated planning by those who make land use decisions and those who provide transportation is essential to maintaining the usefulness of the transportation system at its highest level and for the longest time. It is through appropriate local land use decisions that property protection occurs and the maximum usefulness of transportation facilities is achieved.

It is recommended that the Michigan Department of Transportation continue and enhance its efforts for cooperative land use and transportation decision making. Efforts such as corridor management, traffic impact analysis and access control should be augmented by mapped public infrastructure improvements, regional review and other legislative and policy initiatives to manage development.

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TION SYSTEM.

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MICHIGAN HAS ONE OF THE MOST EXTENSIVE STATE/COUNTY/MUNICIPAL ROAD NETWORKS IN THE COUNTRY.

## HIGHWAYS

Michigan's system of state highways, county roads and municipal streets totals nearly 118,500 miles -- one of the most extensive networks in the country. As of 1993, M•DOT had jurisdiction over 9,600 miles of this system, which includes all "I" (interstate), "US" and "M" numbered highways. Almost 89,000 miles are under the jurisdiction of 83 County Road Commissions and 20,118 miles of city streets are under the jurisdiction of the 534 incorporated cities and villages.

TABLE 1

Highway System Mileages in Michigan				
Sub-State Area	State	County	City/Village	Total
Upper Peninsula	1,795	10,463	1,052	13,310
Northern	2,077	21,028	1,092	24,197
Southern	5,734	57,251	17,974	80,959
Statewide Total	9,606	88,742	20,118	118,466

The state trunkline system is designed to serve travel between urban areas and to points beyond the state boundaries. All county seats in Michigan are served by the trunkline system, as are all urban places (1990 population of 5,000 or more). This still leaves many small Michigan communities without nearby access to the trunkline system. Most of the farms and many natural-resource product industries are not directly served by the state trunkline highway system.

Local roads support the trunkline system, serving local and regional needs. Local roads serve travel of primarily intracounty importance. More moderate speeds are generally the rule and design standards are lower. This means tighter curves, steeper grades, narrower lanes, gravel or no shoulders, and less ability to handle heavy loads.

All state fuel taxes and license plate fees are deposited into the Michigan Transportation Fund (MTF). This revenue is shared among city, county and state transportation agencies for construction, maintenance and operation of all Michigan roads and bridges. Approximately 10% of the funds are distributed to the Comprehensive Transportation Fund to support non-highway transportation such as railroads and public transit systems.

Federal aid for roadways is supported primarily through the federal tax on motor fuels. The federal-aid highway program is structured around the National Highway System (NHS) and the Surface Transportation Program (STP). The NHS consists of interstate routes, as well as strategic defense highways and highway connectors, and many principal urban and rural arterials. The STP is a "block grant"-type program, providing funds for state and local transportation projects.

Not all highways, county roads and city streets are eligible for federal funds. A system has been established to classify all streets, roads and highways according to their function. Federal-aid roads are all principal arterials, all minor arterials, all urban collectors and all rural major collectors. If a road is classified as a rural minor collector, or urban local or rural local, then it is not eligible for federal aid. The chart below provides the number of miles eligible for federal-aid within each of the sub-state areas:

TABLE 2

Federal-Aid Eligible Road Mileages in Michigan				
Sub-State Area	State	County	City/Village	Total
Upper Peninsula	1,795	2,568	236	4,599
Northern	2,077	4,234	188	6,499
Southern	5,734	13,183	3,046	21,963
Statewide Total	9,606	19,985	3,470	33,061

Pavement condition is a concern of those who depend on the trunkline and non-trunkline systems. Additionally, seasonal limitations on roads during the spring of the year for commercial traffic can have a very significant impact. For example, a farmer may not be able to hold products locally until a more desirable price is offered in a distant market or the product cannot be delivered at the time of the year when demand dictates. Heavier and wider trucks make for more efficient delivery of goods, but may cause more deterioration of the road if the road base is not adequate to carry heavy loads. A desired goal of the long range transportation plan is to extend the network of all-season roads, and roads adequate to carry 102-inch wide trucks. This goal applies to both trunkline and non-trunkline roads, where specific needs can be identified in cooperation with county and local road representatives. The full benefit of these proposed improvements will be felt only when a fully-connected network is available. Prioritization of roadway segments should take the connectivity issue into consideration. Efforts to develop a statewide all-season network plan will be underway in 1995.

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EFFORTS TO DEVELOP A STATEWIDE ALL-SEASON ROADWAY PLAN WILL BE UNDERWAY IN 1995.

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THE NEED TO MAINTAIN THE EXISTING ROADWAY SYSTEMS IS THE KEY ITEM THAT MUST BE AT THE TOP OF THE LIST OF FUNDING ISSUES.

## Capital Improvement Needs

The need to maintain the existing roadway transportation systems is the key item that must be at the top of the list of funding issues as the statewide plan is finalized. The state trunkline system will require approximately \$12 billion over the next 20 years just to keep pace with regular preservation type work on the existing system.

To get a handle on the local needs, a survey was conducted of the County Road Commissions. The counties were asked to supply their capital improvement needs (resurfacing, reconstruction, all-season upgrades, etc.) for the next 20 years. The costs presented do not include routine maintenance items such as snow plowing.

TABLE 3

County Needs Summary (\$ Billions)			
Sub-State Area	Federal Aid Routes	Non-Federal Aid Routes	Total <sup>1</sup>
Upper Peninsula	\$0.308	\$0.912	\$1.22
Northern	\$0.229	\$1.730	\$1.96
Southern	NA <sup>2</sup>	NA	\$13.34
Statewide Total	NA	NA	\$16.52

<sup>1</sup> All totals are based on input provided through survey of County Road Commissions.

<sup>2</sup> Separate cost for federal aid and non-federal aid routes were not available for the Southern Sub-State area.

The county road needs exceed \$16 billion for the next 20 years. When accounting for the city/village needs, the number grows to \$22 to \$25 billion. The majority of these funds is needed to keep pace with maintaining the existing system and providing improved service to commercial activity throughout the state. In total, the state and local road system needs for preserving and upgrading the existing system range from \$34 to \$37 billion.

These needs greatly exceed current revenues, and they do not even include other highway issues nor the needs of other modes. Prioritization must take place based on service standards. These standards will help direct investment effectively by determining which parts of the system are most critical to preserve, and should therefore receive priority. All needs will not be met immediately. And some will change. So the plan will be updated regularly to give adequate attention to the transportation issues that affect the quality of life in Michigan.

# MAJOR CORRIDOR IMPROVEMENTS

Major corridor improvements, which are best served by state trunkline facilities, are needed in addition to the preservation work for which costs are estimated above. These suggested improvements are summarized below by sub-state area.

## Upper Peninsula

### North-South Corridor

Enhanced north-south travel to central and western Upper Peninsula counties is essential for their continued economic growth and stability. The corridor from Marquette to Menominee provides a vital economic linkage to major commercial centers to the south such as Green Bay and Chicago. This corridor should receive priority consideration for major infrastructure improvements in the Upper Peninsula over the next 20 years (Figure 1).

Meetings with local officials and residents indicated that there is concern about commercial traffic, such as logging trucks, passing directly through their communities. Improvements such as bypasses, widening projects and new routes are options that need to be studied to provide a safe environment within their communities and provide the most efficient and direct routing for commerce.

In the north-south direction, a number of alternatives were examined during the sub-state planning process. The alternatives range from M-95 on the west to US-41 on the east, as well as M-35 in the center of the region. As with the major east-west corridors, it is recommended that passing lanes and center turn-lane improvements be implemented in select locations along these major corridors to reduce congestion and improve traffic operations. In addition, further study and consensus building with local communities is recommended to determine which route or routes should be improved to best serve regional, recreational and commercial traffic serving the central Upper Peninsula. The study should include consideration of traffic flow through Menominee and the potential for alternate truck routing, possibly a bypass. The extent of improvements along the Marquette to Menominee corridor may be driven by major economic development activity such as the conversion of K.I. Sawyer Air Force Base from its military use (it will close as a military installation in late 1995).

A last note on north-south improvements is the need to coordinate with developments in Wisconsin. Proposals by Wisconsin to widen US-2 to four lanes west of Iron Mountain, and to improve US-41 and US-141 as they approach Michigan must be responded to in order to prevent bottlenecks from being formed at the state line and beyond.

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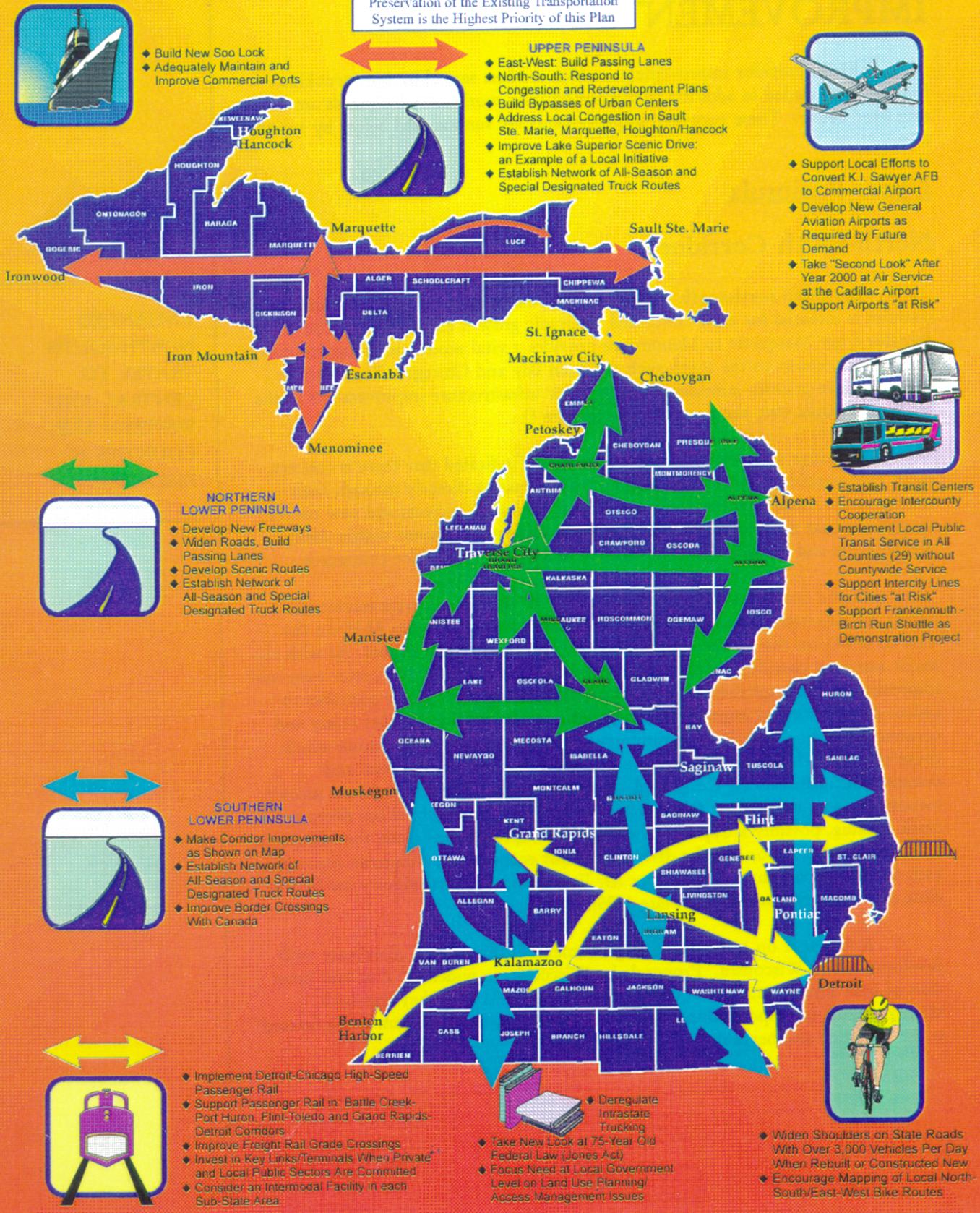
ENHANCED  
NORTH-SOUTH  
TRAVEL TO  
CENTRAL AND  
WESTERN U.P.  
COUNTIES IS  
ESSENTIAL.

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Figure 1

# Michigan's Sub-State Transportation Plan

Preservation of the Existing Transportation System is the Highest Priority of this Plan



## East-West Corridor

During the public involvement meetings, many participants suggested that one of the major east-west corridors, M-28 or US-2, should be widened to four lanes from end to end. The traffic demand analysis, however, indicates that adequate highway capacity exists along most of the lengths of both US-2 and M-28 from Ironwood to St. Ignace and Sault Ste. Marie, respectively. The most significant congestion occurs during the heaviest tourist times, especially at several urban centers located along these corridors.

The most efficient and cost-effective way to remedy congestion along these lengthy corridors over the next 20 years is to provide passing lanes in select locations and bypasses of urban centers. Priority should be given to construction of passing lanes in those locations where bottlenecks are known to exist. Urban places should be accommodated with bypasses, if traffic congestion warrants the improvement and local support for such a facility is evident. For example, the City of Iron Mountain is in the process of determining future transportation direction for their community with a bypass north of the city.

In some areas, particularly those dominated by commercial activities, a lane dedicated to turning vehicles (to create a three-lane or five-lane section) should be installed to enhance safety and ease spot congestion.

As with any major corridor or region in the state, travel characteristics and patterns are subject to change over time. These corridors will be reevaluated in future updates of the long range plan to determine appropriate actions. While a continuous four-lane cross section may not be warranted today, future growth and development may require a second look.

## Sub-Regional Improvements

The sub-regional improvements in the Upper Peninsula include the recommendation that county and city transportation agencies consider improvements to Three Mile Road in Sault Ste. Marie serving the casino area. Other improvements to roads serving the casino area such as Marquette Avenue and Shunk Road are underway. This is typical of the detailed attention that must be paid to the roadway systems in the urban areas, where congestion will be most significant now and in the future.

Recent improvements to Tone Road, and its pending jurisdiction change to a state trunkline (M-80) from I-75 east to M-129, has improved west to east movement through the Kinross and Kincheloe area. A proposed new interchange at I-75 and M-48, approximately 3 miles south of the existing interchange near Rudyard, is not included in the plan but should be looked at in future updates. Traffic conditions in the area should be monitored due to the growth in Chippewa County.

Creating Lake Superior Scenic Drive by paving 60 miles of road was not part of the consultant's preliminary plan, for a number of reasons. Nevertheless, the Lake Superior Scenic Drive proposal is considered of such significance to several counties that it is included in the long range plan as a local initiative project.

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IN THE EAST-WEST  
U.P. CORRIDOR,  
PASSING LANES  
AT SELECTED  
LOCATIONS AND  
BYPASSES OF  
URBAN CENTERS  
ARE PROPOSED.

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SUB-REGIONAL  
IMPROVEMENTS  
INCLUDE THE  
"BUILD MICHIGAN  
PROGRAM"  
PROJECTS.

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Improving direct roadway access to the Keweenaw National Historical Park is not included in the consultant's proposed plan for M•DOT involvement. However, like the Lake Superior Scenic Drive, it can be considered a local initiative project.

Many of the major projects listed in the sub-state north-south and east-west corridors are projects that were identified in the Build Michigan Program. In 1992, Governor John Engler announced the program which is a comprehensive transportation strategy designed to improve Michigan's infrastructure, make the state more economically competitive, and support thousands of jobs in the 1990s. Most of the money in the plan is earmarked to improve over 7,000 miles of state highways and approximately 1,000 bridges. The Build Michigan Program also includes providing counties, cities and villages additional funds to upgrade local roads and bridges. Sub-regional improvements also include a number of Build Michigan projects. They are included as part of the long range plan as well. For the Upper Peninsula Sub-State area these are:

- ◆ Develop a bypass of Iron Mountain
- ◆ Make operational improvements to US-2 in Crystal Falls
- ◆ Improve US-41 from Vivian Street to Franklin Square in the City of Houghton
- ◆ Widen M-129 from Three Mile Road to I-75BL
- ◆ Build a new M-64 bridge over the Ontonagon River

## Northern Lower Peninsula

### East-West Corridors

The consultant's preference for east-west highway improvements through the Northern Sub-State area leads to the preference for a mid-region link (Figure 1). This recommendation is largely based on results from the travel model that indicate that roads in the vicinity of the M-72/M-32/M-66 corridor would be congested by 2015, and that mid-region improvements would have the best chance of relieving congestion, particularly when considering the population and economic growth of counties in the region.

M-72 from Lake Michigan to Lake Huron has been identified as a corridor for improvement. West of Traverse City, analysis of passing lanes, substandard curves, etc. is necessary to determine the exact improvement. M-72 should be widened to four lanes from Traverse City to Grayling. More detailed study should be performed to determine the best configuration for the M-72 section just east of Traverse City that runs concurrently with US-31 and the location of a potential bypass. East of Grayling, traffic volumes are expected to be lower. Thus, east of Grayling, a two-lane section with passing lanes at frequent spacing would provide the needed capacity.

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IN THE EAST-WEST  
CORRIDOR, A  
MID-REGION FOUR-  
LANE ROAD IS  
PROPOSED.

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A better connection between Gaylord and Charlevoix also is needed. Improving M-66 (Charlevoix to East Jordan) and M-32 (East Jordan to Gaylord) to a two-lane roadway with frequent passing lanes could be the option. It would provide the needed capacity. Low traffic forecasts east of I-75, and a mid-region improvement, would reduce the need to improve M-32 east of I-75, beyond the improvements now being made, but the addition of passing lanes at critical locations should be considered.

Finally, although current traffic forecasts indicate that US-10 has adequate capacity to accommodate traffic through 2015, development is occurring in communities along the corridor that will require attention through items such as center turn lanes, passing lanes and intersection improvements. The developments should be monitored closely.

## North-South Corridors

In the north-south direction, a number of alternatives was examined. The results indicate that several north-south corridor improvements are needed to maintain uncongested traffic flow through the rapidly growing Northern Sub-State area. Improvements of US-31, US-131, M-115, M-33, and US-23 are considered candidates for inclusion in the region's transportation plan.

Improving US-31 from Ludington to Traverse City would relieve congestion in the corridor along the northern Lake Michigan shore. It is recommended that US-31 be widened to a four-lane facility from Ludington to Manistee. From Manistee north to Traverse City, spot improvements such as passing lanes, geometric improvements (curves, etc.) and center turn lanes through congested commercial areas are recommended.

Widening US-131 as a freeway from Cadillac north to I-75, somewhere between Grayling and Indian River, would relieve congestion in this major north-south corridor.

Traffic forecasts indicate that implementing major north-south improvements in corridors south of Petoskey will not relieve congestion on the already-congested US-31 corridor between Petoskey and Mackinaw City. Thus, US-31 should be considered for improvement north of Petoskey to I-75.

Testing of the alternatives showed that congestion will occur on US-31 between Charlevoix and Petoskey, even with a US-131 freeway constructed to I-75. Thus, improvements such as passing relief lanes and incorporating a Petoskey bypass are considered by the consultant as appropriate for this section of US-31.

While it is clear that the lift bridge on US-31 at Charlevoix is a bottleneck, a method to fix the bridge while avoiding significant negative impacts in Charlevoix is not apparent.

Passing relief lanes along M-115 from US-10 near US-27 to Mesick and M-37 from Mesick to Traverse City are expected to relieve congestion in this corridor and ease traffic flow through the Cadillac area.

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IMPROVEMENTS TO  
US-31, US-131,  
M-115, M-33, AND  
US-23 ARE  
CONSIDERED  
CANDIDATES FOR  
THE REGION'S  
TRANSPORTATION  
PLAN.

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An upgraded connection between I-75 and M-72 is important in the M-33 corridor to relieve expected congestion. Frequent passing lanes would provide the needed upgrade.

A freeway in the US-23 corridor is needed to relieve congestion and provide a high quality highway connection between Standish and Alpena. The section from Standish to Tawas City responds to a serious congestion issue and the entire length of this improvement is an important economic development project for the Lake Huron shore.

## Sub-Regional Improvements

Of the sub-regional highway access improvements that have been studied in the alternative Northern Sub-State area proposals, it is believed that the existing US-23 would become a "scenic" route, if a US-23 freeway were built. Even with the proposed freeway construction on a new alignment, existing US-23 will require spot improvements, such as passing relief lanes, to provide safe movement of vehicles during peak recreational periods.

Widening M-119 to five lanes is considered important, if congestion is to be alleviated between US-31 and Pleasant View Road east of Harbor Springs. M-119 from Pleasant View Road north to Cross Village might be considered for a heritage route designation.

The Build Michigan Program for the Northern Sub-State Area includes:

- ◆ Widening US-31 from four to five lanes in Traverse City between Grandview Parkway and Garfield Avenue; between Fair Street and 8th Street, and between Traverse City State Park and Four Mile Road.
- ◆ Widening US-27BR in Clare from two to three/five lanes from the Tobacco River to US-27.
- ◆ Widening M-22 northwest of Traverse City to five lanes from M-72 to Cherry Bend Road.
- ◆ A Traverse City bypass from M-22 west of the city connecting with US-31 east of town. This facility would relieve US-31/M-72 along the lakeshore in the downtown, commercial and recreational corridor. This project would include an examination of M-72 west of Traverse City. Recognition of this need is included for special funding in the current ISTEPA (federal funding) legislation.
- ◆ Widening M-27 to five lanes south of Cheboygan to Lincoln Street.
- ◆ A US-31 bypass from west of Petoskey to M-119 east of Petoskey.
- ◆ Improving the alignment of M-32 from east of Gaylord to west of Atlanta.
- ◆ Widening US-31 from Chums Corner to South Airport Road near Traverse City.

## Southern Lower Peninsula

### Northeast Corridor

The analysis of corridors in this area points to improving M-53 between 34 Mile Road in Macomb County and the I-69 interchange at Imlay City. Widening to four lanes should be examined. From Imlay City to the heart of the Thumb area, passing lanes on M-53 are all that appear to be needed.

To improve access to the central part of the Thumb and to the peripheral coastal vacation areas, the northernmost east-west connector, M-81, is considered part of the plan as it appears to provide more travel time advantages than the improvements to M-46 farther south. M-81 would provide access to a point near the center of the Thumb, whether at Cass City or Bad Axe, and Huron County residents could access this route through M-142 and/or M-53 further north (Figure 1). M-53 between Bad Axe and Port Austin has already been improved to a good two-lane facility, although without passing lanes. M-25, which covers the coastal perimeter of the Thumb, is a scenic highway that should be subject to only minor improvements to support tourism and the increase in vacation homes.

If M-53 were widened from a two-lane to a four-lane highway between 34 Mile Road in Macomb County and Imlay City, the point at which this improvement would pass through Almont in southeastern Lapeer County would require additional study because the present right-of-way may not permit widening without serious economic and aesthetic impacts.

M-24 shows significant congestion in the year 2015 from Oakland County to the city of Lapeer, just south of the I-69 interchange. Consideration should be given to a four-lane facility along this corridor. Less congestion is expected north of Lapeer to the M-90 intersection. The construction of a new two-lane facility to connect M-24 at Caro with M-138 just east of Akron would provide a major improvement in north-south traffic flow between the Thumb and Genesee County.

### Northwest Corridor

Connecting the southern half of Michigan to the growth center in Western Michigan is part of the consultant's proposal. The travel demand model indicates that congestion will occur along the M-89/M-40 corridor between Battle Creek and Holland. Capacity improvements along this corridor such as passing lanes and bypasses may be warranted. One community, Richland, has been identified as a potential location for a bypass to divert regional through traffic away from the central business district. Because Richland and a major portion of this corridor are within the boundaries of two Metropolitan Planning Organizations (MPOs) (the Kalamazoo Area Transportation Study and the Battle Creek Area Transportation Study), these projects must be approved and advanced as part of the MPO long range planning process.

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IN THE THUMB  
AREA, IMPROVE-  
MENTS TO M-53  
AND M-81 ARE  
CONSIDERED  
IMPORTANT.

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Of particular concern is the segment of M-89/M-40, outside the MPO boundaries, from US-131 northwesterly to Holland. Some capacity improvements should be advanced because there will be serious congestion along this section within the next twenty years.

The draw bridge on US-31 at Grand Haven requires attention. Because the bridge is open every hour on the half-hour, as required for marine traffic, its carrying capacity is significantly less than that of the highways feeding its approaches. Additionally, long queues cause serious congestion in the vicinity of the bridge when it is open. The only alternate route entails a 35-mile trip to reach one side of this bridge from the other. For the long-term, additional lanes on the existing bridge or a totally new bridge should be examined.

Because M-104 has become a major part, and the only two-lane portion, of the most direct route from Grand Rapids (and points southeast) to the lakefront area, the consultant's proposal includes the widening of this road to four lanes between I-96 and US-31. Potential impacts at the western end of this segment, as it passes through Spring Lake and crosses a major bridge structure, will require more detailed analysis to determine an alignment. Limited right-of-way through Spring Lake could make this needed improvement economically unfeasible.

In Grand Rapids, traffic pressures, both current and projected (Kent County is projected to grow by 150,000 people in the next 20 years), will require better highway access to employment centers. The consultant originally recommended improvements to M-37, both north and south of the Grand Rapids metropolitan area boundary, as a means to provide better access to the Grand Rapids area. Because the Grand Rapids Environs Transportation Study (GRETS) long range plan does not include major capacity improvements to the northern segment of M-37 within the MPO boundaries, the sub-state recommendation has been revised to be consistent with the MPO plan. The consultant only recommends improvements to M-37 from 76th Street south to Middleville as a four-lane facility, which is consistent with the MPO long range plan to widen M-37 from 32nd Street south to 76th Street.

## Southwest Corridor

It is the consultant's preference that the development of significantly improved access between the southwest quadrant of Michigan and the state of Indiana (both the South Bend/Elkhart/Mishawaka employment centers and access to east-westbound I-80/90) be a priority project for the 20-year plan. A direct southbound route through Cass County would open up new areas to development and provide additional farm-to-market access that is needed in this region but faces certain environmental impacts.

The widening of US-131 to a four-lane freeway, from Schoolcraft to the Indiana state line, would provide an alternative that must be compared with the Cass County route through further M•DOT analysis of costs and benefits. This solution is the consultant's preference because it, combined with the widening of US-131 from Cadillac to I-75, would provide a much needed north-south route.

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THE CONSULTANT  
PROPOSES  
IMPROVED ACCESS  
BETWEEN  
SOUTHWEST  
MICHIGAN AND  
SOUTH BEND/  
ELKHART/  
MISHAWAKA,  
INDIANA.

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## Southeast Corridor

It is the consultant's preference that improved access between Jackson and the State of Ohio be included in the 20-year plan. It is evident from the 2015 congestion projections under the "do nothing" scenario that the greatest traffic pressure is south on US-127 and then southeast on US-223 through Adrian to US-23.

The proposed improvement is to widen to four lanes US-127 from Jackson to the intersection with US-223 and widen US-223 by the addition of passing lanes between that intersection and the intersection of US-223 and US-23. This road would intersect, or be near, a proposed interstate (I-73) extension coming out of Ohio.

## Sub-Regional Improvements

Of the sub-regional improvements that have been studied in the alternatives, two are currently in some stage of design or construction as part of the Build Michigan Program. They are US-27 between Lansing and Ithaca, and M-20 between Midland and Mt. Pleasant. Other projects included in the Build Michigan Program that will provide capacity relief and improved access include:

- ◆ Widening M-84 from Tittabawassee Road in Saginaw County to Euclid Avenue in Bay City, Bay County. (This project should be included in the MPO plans for Bay City and Saginaw.)
- ◆ Making interchange improvements at US-10 and Eastman Road, north of Midland.
- ◆ Upgrading the interchange at US-10 and US-10BR/M-20 east of Midland.
- ◆ Building a new interchange at US-10 and Bay City Road east of Midland.
- ◆ Reconstructing the interchange at I-75 and M-57 near Clio to include widening M-57 to five lanes from the interchange east to the west city limits of Clio. (This project should be included in the Flint-Genesee County Transportation Study long range plan).
- ◆ Making interchange improvements at I-75 and Birch Run Road (M-54/M-83) in Saginaw County.

Other projects that were discussed at the sub-state meetings that should be included in the plan are:

- ◆ Reconstructing the interchange at M-59 and US-23 in Livingston County. (This project needs to be included in the Southeast Michigan Council of Government's long range plan. Federal demonstration funds are being provided to help fund the reconstruction work.)

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IMPROVED  
HIGHWAY ACCESS  
BETWEEN JACKSON  
AND THE STATE  
OF OHIO IS PART  
OF THE 20-YEAR  
PLAN.

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- ◆ Building a new interchange at I-96 and I-96BL near Lake Chemung in Livingston County. (This project needs to be included in the Southeast Michigan Council of Government's long range plan. Federal demonstration funds are being provided to help fund the new interchange.)
- ◆ Relocating US-31 near Berrien Springs north to I-94.
- ◆ Corridor improvement options for US-31 between Holland and Grand Haven range from an improved four-lane facility to a freeway on new alignment. Bypasses of Holland and Grand Haven are being considered in the planning study now underway.

An eight-mile segment of M-66 from I-96 to a point just north of Ionia is expected to be congested by the year 2015. Information presented at the August 1994 round of public meetings revealed that additional traffic will be generated by two factors not included in the earlier projections. These two factors are the decision by a local industry to change its shipping mode from rail to truck and the anticipated improvement to Ionia's airport near the M-66/I-96 interchange, which will permit corporate aircraft to use this field. This project requires further study to stay ahead of the impacts of these proposed changes.

## AVIATION

### Upper Peninsula

Maintenance of adequate facilities at existing airports throughout the state is key to Michigan's accessibility for passenger activity and to accommodate air freight. Forecasts indicate that, by the year 2000, air cargo revenue nationally will rival that of freight shipped by rail. So, it is essential that all commercial airports remain viable through adequate air service and that M•DOT support them when needed. One key consideration in the Upper Peninsula is the concept of providing commercial airline service at K.I. Sawyer Air Force Base. This facility will close as a military installation in late 1995. If it is supported by the county's leadership, then a shift in commercial activity from the current Marquette County Airport is likely to be necessary. Otherwise, two airports competing to serve the same sub-region will limit K.I. Sawyer's viability as a commercial facility. Additionally, consolidation at K.I. Sawyer A.F.B. should not be accomplished at the expense of other commercial airports outside Marquette County.

Development of general aviation airports in the Upper Peninsula should occur as outlined in the *Michigan Aviation System Plan, General Aviation Facilities* and as supported by local airport sponsor initiative. Therefore, upgrades at existing airports serving Munising, Grand Marais, and Pointe Aux Pins, for example, should be made only if local support is evident in terms of based aircraft, usage and community activity. New airports are considered more likely to be added to the plan for the Upper Peninsula where no airport now exists. So, if local support can be generated in Baraga County and on Neebish and Sugar islands, and an adequate number of aircraft can be based at the proposed airports without detracting from

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CONVERSION OF  
K.I. SAWYER  
A.F.B. TO A  
COMMERCIAL  
AIRPORT WILL  
DEPEND ON  
SHIFTING SERVICE  
FROM THE  
EXISTING  
MARQUETTE  
COUNTY AIRPORT.

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other facilities in the region, then new airports at these locations are considered viable additions to the plan. While Keweenaw County is similarly without an airport, its expected economic and population conditions don't justify one. Paradise and Bruce Crossing are now served by one or more airports. Therefore, FAA will require strong local support, and other evidence of the need for additional facilities in these sub-regions, if new airports are to be built.

### Northern Lower Peninsula

The Wexford County airport serving the Cadillac area has had scheduled passenger service in the past, but it was not sustained. Furthermore, almost 80 percent of enplanements in the Northern Lower Peninsula occur at the Cherry Capital Airport at Traverse City. So, without a strong local sponsor and the ability to generate additional passenger traffic (not drawn from other airports) the concept of improving Wexford County's airport, and re-introducing air service in the near-term, is not recommended. However, with the tremendous population growth expected in this section of the Northern Lower Peninsula, the concept of improving the Wexford County airport deserves a "second look" after the year 2000.

The evaluation of other airport improvements previously discussed leads the consultant to the conclusion that upgrades at existing airports as outlined in the 1990 *Michigan Aviation System Plan* (e.g., Indian River, Interlochen, Kalkaska, Luzerne, Northport, Thompsonville, Cheboygan, Clare Municipal, Cadillac, and Charlevoix Municipal) should be made only if local support is evident (in terms of based aircraft usage, and community activity). On the other hand, new general aviation airports are considered viable additions to the plan for the Northern Lower Peninsula only when no airport now exists in the general area. None of the four "new" general aviation airports meets this criterion. So, unless there is strong local support without detracting from other nearby facilities, these airports are likely not to be built by 2015.

The conversion of Wurtsmith A.F.B. to civilian use was not foreseen by the *Michigan Aviation System Plan*. It has strong local support and is now occurring.

### Southern Lower Peninsula

Key aviation proposals for the Southern Lower Peninsula are maintaining commercial airline service at the locations where it exists today and ensuring that reliever airports are available for Detroit Metro, where a fourth parallel runway is anticipated within the 20-year planning period. As commercial airline traffic grows there is continuing pressure on general aviation aircraft to use other facilities. The Federal Aviation Administration recognizes nine "reliever" airports that are suitable for smaller aircraft to help avoid a mix of large and small planes that leads to increased delay for commercial traffic. This activity, including the nine reliever airports, is all within the Southeast Michigan planning region and is dealt with in the Southeast Michigan Council of Government's report *Regional Aviation System Plan for Southeast Michigan* of April 1992.

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AIR SERVICE AT  
THE CADILLAC/  
WEXFORD  
COUNTY AIRPORT  
DESERVES A  
"SECOND LOOK" IN  
THE POST-2000  
PERIOD.

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THE VIABILITY OF  
PUBLIC TRANSIT  
IS LINKED TO  
ESTABLISHING  
AGREEMENTS  
AMONG COUNTIES  
TO ALLOW BUS  
SERVICES  
CENTERED IN ONE  
AREA TO CROSS  
COUNTY LINES  
TO SATISFY  
TRANSPORTATION  
NEEDS IN  
ANOTHER.

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Maintenance of adequate facilities and air service at the eight commercial air carrier airports and Detroit Willow Run in the Southern Lower Peninsula is key to the region's accessibility not just for passenger activity, but to accommodate air freight. The *Michigan Aviation System Plan* and the *Five Year Development Plan, 1994-1998* identify in excess of \$10 million for improvements related to freight handling at four primary airports.

Seven new airports are noted as having some potential for long-term development. At the present time a need for additional capacity is not foreseen. Nevertheless, the new airports will remain candidates for development should conditions change such that local sponsors emerge and demonstrate local financial commitment and need. Therefore, if local support can be generated in any of the communities listed as potential locations for new airports, and an adequate number of aircraft can be based at a proposed airport, without detracting from other facilities in the region, then new airports at these locations are considered viable additions to the plan for the Southern Lower Peninsula.

Regarding upgrading of the transport airports identified earlier, improvements are already programmed for fourteen of the twenty airports in M•DOT'S *Five Year Development Plan, 1994-1998*. These are the result of discussions of local officials and airport operators, who come forward with proposals for airport development. The consultant endorses these developments, which are predicated on consistency with the *Michigan Aviation System Plan* and its goals.

## BUS

Most important to the viability of public transit in Michigan is the ability of counties to establish, within a region, interlocal agreements to allow bus services centered in one area to cross county lines to satisfy transportation needs in another. This is particularly true in instances where essential service facilities (hospitals, employment centers and the like) are not concentrated. Such cooperation exists between Manistee and Traverse City and is called for in the Thumb area of the Southern Lower Peninsula. In all cases, the transit services to be provided must avoid competition with private intercity operations.

It is also recommended that county and city public transit services be coordinated with other existing state transportation services sponsored by agencies such as the Michigan Employment Security Commission (MESC) and M•DOT. For example, MESC's JobPact Program provides transportation assistance to clients and customers for jobs and employment training. M•DOT's Rideshare and Mobility Enhancement Programs are offered statewide to provide cost-effective transportation alternatives and increase mobility.

## Upper Peninsula

The consultant expects that transit services will be maintained in the 15 counties in the Upper Peninsula so the essential trips for medical, employment and education-related-to-employment activities can continue, without depending on the automobile.

For the systems that now exist, regular replacement of the bus fleet (135 vehicles and support equipment) is recommended. This cost is estimated at \$21 million over the 20-year period ending in 2015. The consultant also estimates that, if local support is evident, new general bus operations could be started over the next 20 years in six counties in the Upper Peninsula, without county-wide service. Therefore, additional vehicles, equipment and other facilities costing \$11 million has been included in the plan.

The consultant's preferred transportation plan calls for transit centers to be established in each county-seat community and each urban place (population 5000 or more). The centers are expected to be conveniently located on major roadways, in well-lighted areas, with high visibility so that the consumer has a convenient, safe place at which to wait for a transit vehicle. Such centers will be small and cost up to \$70,000 per center (exclusive of land). In the Upper Peninsula, that means as many as 14 centers are called for in the next 20 years at a total cost of about \$1 million.

Intercounty transit cooperation will also lead to establishing better feeder services to the intercity bus system. This type of feeder service is considered critical to the survival of intercity bus operations in the Upper Peninsula.

The most viable intercity public transportation service currently in operation in the Upper Peninsula is that provided by J&J Limo between Sault Ste. Marie and St. Ignace. Based upon population growth forecasts for Mackinac and Chippewa counties (in excess of 40% over the next 20 years) as well as the continued development in tourist/casino activities, it is likely the need for this service will grow. Additionally, an elevated tram system is now being considered to connect the two Sault Ste. Maries. Therefore, to be responsive to these trends, this plan includes upgrading intermodal centers in Sault Ste. Marie/U.S. and St. Ignace. These facilities, centrally located, are likely to cost about \$300,000 together (exclusive of land).

A key component in the bus portion of the consultant's preferred plan is better intercity service across the Upper Peninsula. A link from Marquette to Duluth and AMTRAK Thruway Bus service from Marquette to Escanaba and then to Green Bay, Wisconsin, could become a critical connection for non-automobile users. An eastern connection from Marquette to Sault Ste. Marie or St. Ignace completes a fully-integrated intercity network across the Upper Peninsula. This proposal ties in well with the plan to provide intermodal centers in St. Ignace and Sault Ste. Marie. As this concept of stronger intercity bus service across the Upper Peninsula is pursued, consideration should be given to upgrading the intermodal center in Marquette along the scale of that proposed for St. Ignace and Sault Ste. Marie.

### **Northern Lower Peninsula**

For the systems that now exist, regular replacement of the bus fleet (234 vehicles and support equipment) is recommended. This cost is estimated at \$26 million over the 20-year period ending in 2015. The consultant also estimates that new general bus operations could be started over the next 20 years in 11 counties in the Northern Lower Peninsula without county-wide service. Therefore, additional vehicles, equipment, and other facilities costing \$21 million have been included in the plan.

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BETTER INTERCITY  
BUS SERVICE  
ACROSS THE  
UPPER PENINSULA  
IS PART OF THIS  
PLAN.

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THE PLAN CALLS  
FOR TRANSIT  
CENTERS TO BE  
ESTABLISHED IN  
EACH COUNTY-  
SEAT COMMUNITY  
AND EACH URBAN  
PLACE  
THROUGHOUT  
MICHIGAN.

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The consultant's preferred transportation plan calls for transit centers to be established in each county-seat community and each urban place. In the Northern Lower Peninsula, that means as many as 22 centers (half new, half upgraded) are called for in the next 20 years at a total cost of about \$1 million.

A final component in the bus element of the consultant's preferred plan is better intercity service on the east shore of the Northern Lower Peninsula (US-23). Intercity bus schedules should be linked to AMTRAK where possible.

### **Southern Lower Peninsula**

For the systems that now exist (outside MPOs), regular replacement of the bus fleet (185 vehicles and support equipment) is recommended. This cost is estimated at \$18 million over the 20-year period ending in 2015. The consultant also estimates that new general bus operations could be started over the next 20 years in 12 counties in the Southern Lower Peninsula without county-wide service. Therefore, additional vehicles, equipment and other facilities costing \$22 million have been included in the plan.

Excluding areas that fall under the purview of a Metropolitan Planning Organization, and other areas that have intermodal facilities (Alma and Dowagiac), the consultant's preferred transportation plan calls for transit centers to be established in each county-seat community and each urban place. In the Southern Lower Peninsula, that means as many as 17 new centers are called for in the next 20 years at a total cost of about \$1.2 million. Another 20 existing centers have been assumed to receive upgrades on the order of \$20,000 each, bringing the total potential capital cost for these facilities to \$1.6 million.

Intercity bus service is strong in the Southern Lower Peninsula with the exception of the northern counties beyond the urbanized areas and in the Thumb. Here the subsidized services up each shore from Grand Rapids north and from Bay City north must be maintained. When, and if, these services can be returned to the private sector, they should be.

Intercity bus schedules should be linked to AMTRAK, where possible, recognizing the infrequency of service of both bus and rail.

Transit shuttle service between Frankenmuth and Birch Run is included in the consultant's recommendation as a demonstration project, where seed money is contributed by the private sector beneficiaries. The commitment of state sponsorship should be limited in time and amount.

# RAIL

State assistance is provided through loans to rail companies for capital expenditures. The consultant believes state investment in upgrading freight rail lines through existing, revised, or new loan/grant programs should continue. Such state investment is proposed on a case-by-case basis related to the unique conditions of each situation.

In the past, the Michigan Department of Transportation purchased certain rail lines in danger of abandonment. The decision to purchase and maintain these lines was based on whether there was a need to continue essential service to customers along the lines or whether an unusual economic development opportunity existed. Today, these lines are either used by private operators or "rail-banked" to keep the corridor available for future rail service. Current M•DOT policy is directed at returning state-owned railroad properties to the private sector. If no rail service demand exists for abandoned lines, they are considered for conversion to public use through the "Rails - Trails" Program. This policy and other ownership options are being re-examined by the State Transportation Commission.

## Upper Peninsula

The bulk of rail improvements proposed for the Upper Peninsula address upgrading existing freight facilities. A new intermodal terminal facility, however, is proposed in the Gladstone area and another in nearby Wisconsin.

Consolidation of rail lines among the various railroad operators in the Upper Peninsula is a consideration that this plan leaves to the private sector owners and operators. Appropriate support/cooperation from M•DOT should be provided.

## Northern Lower Peninsula

As noted above, consolidation of rail lines among the various operators in the Northern Lower Peninsula is a consideration that this plan leaves to the private sector owners/operators. In concert with the operators, it may be prudent to determine whether both lengthy state-owned lines in the north, one to Gaylord and the other to Cadillac (and then to Traverse City and Petoskey), should be maintained. Action is not necessary as long as the lines are viable commercially and the operating entities are responsible for maintenance. Regardless, the long-term goal should be to continue rail service in the region and develop a major intermodal facility.

Coordination with AMTRAK rail in Grand Rapids and Thruway bus service to Bay City is considered important to support intercity bus service in the Northern Lower Peninsula.

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A MAJOR  
INTERMODAL  
FREIGHT TERMINAL  
IS WORTHY OF  
CONSIDERATION IN  
EACH SUB-STATE  
AREA.

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A proposal to provide regular rail passenger service along the state-owned line from Ann Arbor north to Traverse City and Petoskey will need further evaluation before it could be included in the long range plan. For this reason, the consultant recommends that this proposal be studied to determine if sufficient demand exists to sustain daily (or weekend-only) passenger service.

## Southern Lower Peninsula

AMTRAK rail patronage has grown significantly in the Southern Lower Peninsula. The further improvement of AMTRAK service is part of the preferred plan.

Also part of the plan is improved passenger rail service in the Battle Creek-to-Port Huron (and Canadian and east coast destinations) corridor. One option is for rail service to Bay City, instead of the Thruway bus service now provided. Increased ridership will feed other potential new rail services, such as a Flint-to-Detroit line, or in the more distant future, a line between Grand Rapids and Detroit. This latter proposal would connect the state's fastest growing area with the Capitol and the state's largest metro area.

An opportunity exists to expand the non-auto network by providing more links between the intercity bus service and rail service, as noted above. This could take the form of increased AMTRAK Thruway bus service or expanded interface with private carriers. Other linkages should also be pursued, such as a connection to Detroit Metro Airport and to the Woodward Corridor in Detroit, which experiences heavy transit use.

Estimates to provide high speed passenger rail service between Detroit and Chicago in the 100+, 125+ and 150+ mph speed ranges are \$255, \$794, and \$2,508 million, respectively. Capital expenditures are keyed to incoming revenue levels. Seeking non-state funding sources is an important element of the plan. Much will depend on federal funding in the Chicago-Detroit corridor.

In the Southern Lower Peninsula, the outlook for freight rail is very strong in established corridors, though demand may decrease or disappear in lightly used corridors. Again, the consultant believes state investment in upgrading freight rail lines through an existing or new loan program should continue.

State investment in separating rail and highway at key crossings is an ongoing part of this plan. The state's roadway network and the viability of the rail system require this M•DOT involvement.

Consolidation of rail lines among the various operators in the Southern Lower Peninsula is a consideration that this plan leaves to the private sector owners and operators. On the other hand, it is reasonable for the state to act in a coordinating role to bring interested parties together to implement projects of regionwide or statewide significance, such as the Detroit intermodal freight center, now under study. Such facilities should be in the long-term interest of shippers, the trucking industry and freight rail companies, and would support similar facilities in other locations.

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M•DOT SHOULD CONTINUE TO SUPPORT EFFORTS TO STRENGTHEN INTERMODAL FREIGHT RAIL FACILITIES SUCH AS THOSE NOW BEING PLANNED IN DETROIT.

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## International Border Crossings

Several major projects are planned to facilitate the movement of people and goods between Canada and the United States to improve the productivity and competitiveness of the economies of both nations. In Michigan, there are rail tunnel projects in Detroit and Port Huron that will accommodate double-stack rail shipment between Michigan and Canada.

The new Canadian National North America (CNNA) tunnel between Port Huron and Sarnia is scheduled to open in early 1995. The new tunnel will allow CNNA to more effectively market intermodal services, which will increase the number of trains in the Chicago-Toronto/Montreal corridor and divert a corresponding volume of trucks from the highways. Increased rail traffic may require upgrading selected grade crossings along the route.

A recent enlargement project of one tube of the two-tube Detroit River Railroad Tunnel, between Detroit and Windsor, Ontario, has been completed. This tube can now handle all but special tri-level and domestic double-stack rail cars. The deepened tunnel tube can now handle 8'6" ocean containers double-stacked. Interest still remains in enlarging the other tube or constructing a new tunnel that will handle the larger domestic double-stack containers.

Other border crossing projects that will improve the movement of people and goods include the proposed second bridge span at the Blue Water Bridge in Port Huron. Design is underway for this project. Plans are also underway to provide direct freeway access and other access enhancements at the Ambassador Bridge in Detroit.

## MARINE PORTS

Federal navigation channels are the responsibility of the U.S. Army Corps of Engineers, with input from state and local agencies. Other commercial channels and landside port facilities are the responsibility of the private sector. The U.S. Coast Guard maintains navigational aids and provides ice breaking services. The Michigan Department of Transportation and local agencies provide highway access to port facilities. Access to these facilities is considered adequate but will be continually monitored by the road agencies so that any changes in activity will be accommodated.

The capacity of the port network throughout the state of Michigan is generally well beyond its current demand. Some of these ports may be discontinued due to lack of demand, environmental problems, increased federal user fees/taxes, the local cost to make improvements, as well as competition with other modes, including pipelines. The consultant's preference is that the natural dynamics of port activity continue without interference from state government. Whereas port capacity is adequate at this time, and infrastructure is sound, public facilities should be maintained and, where warranted by private sector actions, improved.

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THE NEW  
CANADIAN  
NATIONAL  
TUNNEL BETWEEN  
PORT HURON  
AND SARNIA IS  
SCHEDULED TO  
OPEN IN EARLY  
1995.

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A NEW SOO LOCK  
IS PROPOSED AS  
ARE CHANGES TO  
LAWS SO THE  
FEDERAL  
GOVERNMENT  
WILL PAY 100% OF  
THE PROJECT'S  
\$445 MILLION  
COST.

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## Upper Peninsula

The Soo Locks are important to water transportation, nationally and internationally. Only one large lock is capable of handling 1,000' vessels and it must accommodate two-thirds of the U.S. fleet carrying-capacity. If that lock were disabled, for whatever reason, the impact on utility companies and automobile manufacturers (and others depending on steel), to name just two industries, will be severe nationwide.

The consultant calls for a second large lock to be built. Its construction will cost an estimated \$445 million. In pursuing this improvement, adjustments to federal legislation are in order so the new lock can appropriately receive all of the funding from the federal government as compared to the 65% now allowed.

In the immediate future, lowering a shoal on the approaches to the existing Soo lock would do much to eliminate a constraint on load levels. The private sector should be called upon to finance the 35% local share of this project's cost.

Public ferry transportation service is provided in the Upper Peninsula on nine ferry routes. The state invests in the Eastern Upper Peninsula Transportation Authority's ferry service to Drummond, Neebish and Sugar islands. The consultant's preferred transportation plan calls for continued investment in the Authority's ferry activities. Other ferry services are expected to continue to be the responsibility of the private sector, with the exception of the Houghton-Isle Royale service which is operated by the federal government.

## Northern Lower Peninsula

Public ferry transportation service is provided in the Northern Lower Peninsula on seven ferry routes at five ports and on Lake Charlevoix. The state provides no direct financial support for these services today. The Ironton ferry service, which crosses the south arm of Lake Charlevoix, is operated by county government.

The consultant's preferred transportation plan calls for continued reliance on the private sector to provide most ferry services now available in the Northern Sub-State area. There are cases, however, where state or federal assistance may be necessary to assist ferry operators provide important services. To be eligible for federal ISTEA funds, the ferry service must be publicly owned.

An example of financial assistance for ferry service is the request to provide a new ferry boat to serve Beaver Island. The Michigan Department of Transportation is working with the Beaver Island ferry service to obtain funds to purchase the new ferry boat. This service is considered a lifeline by many island inhabitants.

## Southern Lower Peninsula

Public ferry transportation service is provided in the Southern Lower Peninsula on four passenger ferry routes on the St. Clair River, all privately owned. Two privately operated rail ferry services operate on the St. Clair River as well. One privately operated truck ferry operates on the Detroit River. The consultant's preferred transportation plan calls for continued reliance on the private sector to provide the ferry services now available in the Southern Lower Peninsula.

Regulations now prohibit use of river barges on the Great Lakes that could link ports on the west side of the Lower Peninsula with the Mississippi River system. There are safety issues related to operating river barges on the Great Lakes which are currently being addressed by the U.S. Coast Guard. If new vessels were developed or regulations moderated, as they have been near Chicago, there would be a greater opportunity for commodity and bulk shipping with reduced transportation cost. Advancing the issue of the use of river barges on the Great Lakes should be the subject of ongoing analysis.

## **BIKEWAYS AND TRAILS**

The evaluation of bikeways and trails leads the consultant to the recommendation that, on non-limited access state trunklines, M•DOT provide paved shoulders at least four feet wide (eight feet in highly-congested areas) on road reconstruction projects (or new roads) when those facilities carry at least 3,000 vehicles per day. Separate paths, within the road right-of-way, may be needed in special cases, particularly in small urban areas. In certain situations, consideration of separate, independent bicycle facilities, outside of the roadway right-of-way, may be necessary to provide a more direct and safe connection from one trunkline facility to another. Providing additional space on bridges is also important to the continuity of a non-motorized system.

The consultant also recommends that county and local governments consider providing shoulders at least four feet wide where continuous routes of several miles are likely to be developed and physical conditions permit such facilities. This is particularly true when a three-foot shoulder is being repaired. If it could be widened to four feet, the availability to bicyclists can be accommodated at a relatively small cost.

Off-road trails for bicyclists, pedestrians, and snowmobilers are the responsibility of the Michigan Department of Natural Resources. Nevertheless, M•DOT's ability to influence off-road trails by transferring (at a cost) to DNR previously abandoned rail lines should be accomplished with the knowledge that any trail's development must receive local support. Additionally, the program should be directed at developing paths that support continuous corridors rather than isolated segments that are intrusive and/or fragmented.

It is proposed in the Upper Peninsula that M•DOT invest up to \$3 million for shoulder improvements to its roads in the Upper Peninsula over the next 20 years. It is noteworthy that state law requires all road agencies to spend a minimum of 1% of their transportation revenues for non-motorized transportation.

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THE CONSULTANT  
PROPOSES  
M•DOT PROVIDE  
PAVED SHOULDERS  
AT LEAST FOUR  
FEET WIDE ON ITS  
ROADS THAT  
CARRY AT LEAST  
3,000 VEHICLES PER  
DAY WHEN THEY  
ARE REBUILT OR  
CONSTRUCTED  
NEW.

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It is proposed in the Northern Lower Peninsula that M•DOT invest up to \$15 million in this improvement to its roads in the Northern Lower Peninsula over the next 20 years.

In the Southern Lower Peninsula it is proposed that M•DOT invest up to \$10 million in this improvement to roads in the Southern Lower Peninsula (outside of metro areas) over the next 20 years.

